DOCUMENT RESUME

ED 366 911 CS 011 588

AUTHOR Block, Cathy Collins; Graham, Mary
TITLE Elementary Students as Co-Teachers and Co-Researchers: Methods of Increasing Strategic Reading Behavior.
PUB DATE Dec 93
NOTE 18p.; Paper presented at the Annual Meeting of the National Reading Conference (43rd, Charleston, SC, December 1-4, 1993).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Cultural Background; Elementary Education; *Elementary School Students; Instructional Innovation; Peer Teaching; Reading Achievement; *Reading Comprehension; *Reading Instruction; Reading Research; *Reading Strategies
IDENTIFIERS Reading Behavior

ABSTRACT

A study examined three issues concerning reading comprehension: amount of instruction in comprehension strategies; cultural backgrounds of students; and transfer and self-initiated automaticity. Two methods of creating transfer--students either taught a strategy they had learned to younger classmates, or created their own strategic lessons and thinking guides--were also examined. Subjects, 224 third- through sixth-grade students from 13 heterogeneously grouped classrooms in 9 schools in the Eastern and Southwestern United States, were taught by 13 volunteer teachers using scripted lesson plans. Each teacher selected the types of strategies he/she would teach, and spent 6 hours of instructional time on each strategy lesson. Each lesson had two sections: the first section presented the strategic objective and dispelled misconceptions about the strategy; and the second section allowed students to select something to read, set their own objectives, and plan a demonstration of what they learned. Students completed pre- and post-treatment questionnaires. Results indicated that: (1) strategy instruction effectively enabled students from all ethnic and ability levels to learn the strategies; (2) while significant differences existed among cultural groups in the types of instruction they value, most students in all ethnic groups chose teacher direction above thinking guides or choice of activities as the most useful aspect of strategy instruction; and (3) students who taught others produced more transfer of instruction than peers who worked as a class to design a new strategy lesson. Findings suggest that literacy programs should include more strategic instruction for all students. (Contains 20 references.) (RS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

CS

Dr.Cathy Collins Block
Professor of Education
School of Education
Texas Christian University
P. O. Box 32925
Fort Worth, TX 76129
(817) 921-7660

Dr. Mary Graham
Director of Language Arts
Arlington Public Schools
Arlington, VA 22207

ED 366 911

Elementary Students as Co-Teachers and Co-Researchers: Methods of Increasing Strategic Reading Behavior

Running Head: Increasing Strategic Reading Behavior

CS011588

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

C. Block

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This study was designed to examine three issues concerning reading comprehension and to test two forms of strategy instruction. First, although today's instruction is literature-based, there has not been a significant increase in the amount of instruction students receive concerning comprehension strategies from 1978 to present (Durkin, 1978/1979; Applebee, Langer, & Mullis, 1988). This finding is particularly troublesome when data indicate that students who receive strategy instruction obtain significantly higher scores than controls on (1) standardized tests of reading comprehension, reasoning, and self-esteem; (2) transfers of their critical reading/thinking abilities to situations outside of school; (3) performance tests of group-work skills; and, (4)informal tests of reasoning and problem-solving abilities (Collins, 1991; Block, 1993; Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989).

Second, there is evidence that students who come from different cultural backgrounds may have special instructional needs that can be effectiously addressed through strategic instruction, e.g. Reyes (1993) reports that written communication abilities for Hispanic students did not improve without direct, strategic instruction; and, Delpit (1986, 1988) suggests that a process approach to literacy may be a drawback for African-American students. Without strategic instruction misunderstandings develop between teacher/student expectations. For example, minority groups who hold teachers in high regard tend to expect direct guidance from their teachers (Pearson, 1989). These pupils expect that, if they needed to learn something, teachers will point it out. Therefore, their

teachers' failure to correct errors is interpreted as approval of students' work rather than support for student exploration and self-correction. As a consequence, such students failed to improve in literacy abilities (Macias, 1989; Siddle, 1986).

Third, because previous studies have demonstrated that the strategy instruction used in this study significantly increased elementary students' comprehension, higher level thinking, reasoning, problem-solving abilities, self-esteem, and group-work skills, we wanted to analyze aspects of the instruction that generate most transfer and self-initiated automaticity for students of diverse cultural backgrounds and ability levels (Collins (1991, 1992) and Block (1993s, 1993b). We also wanted to examine what it was about strategic instruction that increased students' higher levels of comprehension and thinking abilities and self-initiated application of strategic thinking outside of school. In addition, research has not been collected to determine the effects of direct instruction in comprehension strategies upon students who have developed their own methods of performing a strategy before instruction occurs.

Fourth, we examined two methods of creating transfer--students teaching a strategy to younger classmates, or creating their own strategic lessons and thinking guides.

METHOD

Subjects

The study involved 224 students from thirteen, heterogeneously grouped classrooms in nine schools in the Eastern and Southwestern United States. Subjects (grades 3-6) represented Anglo-, African-

and Hispanic-American cultures; and, read above, at, and below grade level by scores obtained on the Iowa Test of Basic Skills or Degrees of Power standardized assessments, and by teacher judgement.

Procedures

Thirteen experimental teachers volunteered to participate, and were taught how to use (1) the scripted lesson plan (see pages 5-6); (2) direct explanation of strategic processes; (2) thinking guides; and (3) choices of activities for students. All teachers taught one to four scripted lessons prior to the study to ensure that they understand the instructional processes.

For the purpose of this study, each teacher selected the types of strategies they would teach, with selections being based on their knowledge of students' inabilities to self-initiate use of the strategy prior to the study. All teachers spent six hours of instructional time on each strategy lesson, with per-lesson instructional time ranging from two to four weeks. Although the instructional program will continue for nine months, data for this study was collected after three months' instruction. The specific strategies taught in the thirteen classes were:

1. selecting a decoding strategy based on features of the unknown word;

2. asking questions to eliminate confusion and miscomprehension;

3. using the problem solving process to reduce comprehension problems;

3. using matrices to analyze plot structures;

4. setting and meeting weekly goals and developing plans of action in a personal reading program;

5. monitoring one's own metacognition through hints, storytelling, minor modifications, "what if ____ were ___", and recognizing their strengths/weaknesses;

6. creating mental images while reading;

7. reasoning during reading by comparing and contrasting;

8. recognizing different perspectives and points of view;

9. brainstorming to increase creative thinking;

10. summarizing to increase retention;

11. taking responsibility for one's actions;

12. using reciprocity; and,

13. completing large projects to increase self-motivation.

Prior to instruction, the majority of subjects were asked to describe how a comprehension strategy could be used in reading, and how they did it (e.g. "Why is it important to create mental images while reading and in your life, and how do you do it, if you do?"). These free response written answers were used to assess if students knew how to use a strategy prior to instruction. These subjects also answered a question concerning non-literacy situations outside of literacy tasks in which the strategy could be used, and would be helpful if selected. Students were not told to think about the strategy, or to use it as they answered the problem (e.g. "If you loose something, what do you do to find it?"). Answers to this question were used to assess if students transferred the strategy to situations outside of school without being asked to do so.

In addition, within one week of the study's end, all subjects

answered several questions concerning their instruction, such as when, how often, and where they used the strategies; and, what part of the instruction was most and least helpful to them,

Some were also re-asked the first question above, and given a different, but comparable question to the second that they wrote to in the pretest. Students' answers were analyzed qualitatively as well as empirically through analysis of variance and pearson chi-square statistics.

Treatment

Each lesson had two sections. In part 1, (Presenting a strategic objective and dispelling misconceptions about the strategy to be learned), teachers opened instruction by describing a strategy to students. Also, they gave the goal for the day's work, the methods students will use to apply the strategy to their lives and to reading/writing, and how students will know they have used the strategy effectively. Then, to dispel any misconceptions students had about a strategy or its difficulty, teachers eliminated students' inadequate or inaccurate prior knowledge and discussed students' previously unsuccessful attempts to think strategically.

Students' misconceptions were dispelled in four ways: (a) students presented testimonials concerning the benefits they received from learning the strategy (e.g., one student said that prior to strategy instruction, he believed that "asking questions caused people to think I was stupid"; after using the strategy of asking questions to clarify information, he stated that "when you learn to ask really good questions, like those on the thinking

guide, people see that you are really smart"); (b) students discussed their concerns about learning a strategy, and past failures to read and think strategically; (c) students' inaccurate statements concerning a strategy were disconfirmed (e.g., one student's misconception was: "It takes too long to break words into parts, so I just skip all long words I don't know"); and (d) students state their strongest negative beliefs about a strategy in a positive way (e.g. "I believe that I'm too bashful to ask questions before the class" was restated as, "I want to discover why I'm too shy to ask questions"). By dispelling misconceptions before a strategy is taught, less of students' learning time was consumed by self-doubt and trying to reconcile their inaccurate prior knowledge while reading.

Thinking guide instructions. Students were then given a thinking guide that describes the strategy to be taught. Each guide was a one-page chart and diagram of a thinking ability.

that named and depicted the components of each strategy so students could discuss them in the course of their work. Each guide contained graphics so students could imagine, retrieve, and transfer a strategy with less effort.

Three examples of the thinking guide in use. After discussing the thinking guide, students completed one application of the strategy as a class and generated examples of how they can use the strategy in their lives and during the reading to come in part 2. Students put their thinking guides on their desks beside the material they read. This enabled easy reference and reflection designed to encourage application of the strategy.

In Part 2, (Students' self-selection of material, method, and goal for using the strategy while reading) students selected something to read, set their own objective relative to the lesson's strategy, and planned a demonstration of what they learn. In part 2, students motivate themselves to read before they begin, and plan the way they will use the strategy they learned. Students choose between working alone, in pairs, or small groups; and, selected the content area and genre in which they would read.

Self-assessment of learning. After completing their reading, students self-assessed their use of a strategy by (a) answering the question, "What have I learned from this lesson that I will use later in life?" (b) generating new uses of the strategy, (c) discussing what they have learned with a peer, (d) and/or presenting a summary to the class.

RESULTS

Pearson chi-square analysis of data from students' posttest written responses to the two questions described on page 5 indicated that there were no statistical differences between the number of students in each cultural group relative to effects of instruction in learning comprehension/higher level thinking strategies. More than 75% of all subjects in each ethnic group could describe and use the strategy they were taught without being instructed to do so after instruction ceased. Moreover, the same statistic demonstrated that there was not a significant relationship between ability level and students' abilities to use the strategy after instruction ceased. Again, a large majority of students in each ability group used the strategy without prompting

upon study's end.

Analyses of questions 4-8 revealed significant differences between the types of instruction that Anglo, African-American, and Hispanic-Americans valued ($X = 21.57$, $df=8$, $p=.006$); and, above average, average, and below average readers preferred ($X = 32.778$, $df=9$, $p<.0001$). While all three ethnic groups preferred teacher direction, African-Americans expresses an equal value for the thinking guide and significantly fewer Anglos (and fewer still) Hispanic-Americans valuing it. Hispanic-Americans preferred choice of activities (Part 2 of the lesson) as more valuable that the thinking guide. On the other hand, students who read above grade level selected the thinking guide as their most valuable form of instruction, with on-grade level and below-grade level subjects selecting teacher direction as their preferred instructional activity. There were no significant differences between groups as to the section of the lesson that was rated as least useful to students.

High ability students stated that they enjoyed the thinking guide's novel graphics, and the specificity of the components of the strategy that the thinking guide conveyed, e.g. "The thinking guide let me think and plan ahead better;" "It let me see the steps." On the other hand, those who were less comfortable with reading reported that the support of the teacher or others bolstered their self-efficacy, e.g. "because I'm not a good reader. . .;" "for I could talk to them and learn more;" and, "I would know more what I was talking about."

All subjects who transferred the strategy to a situation

outside of the classroom were compared to those who did not. Students who transferred strategy use to out-of-school settings selected the thinking guide as the most valuable aspect of their instruction; those who did not selected teacher direction. There were no differences between these two groups based on ethnicity or ability. These data suggest that imagery and the summative quality of the thinking guide assisted in students' abilities to generalize strategies. Moreover, African-American and Hispanic-American subjects who selected teacher direction or thinking guide as their preferred instructional activities had significantly greater amounts of self-initiated transfer of strategic thinking to solve an out-of-school problem than did peers who valued choice of activities ($F=2.624$, $df=5$, $p=.02$).

Students who could describe how they used the strategy before instruction began had significantly more free-reports of transfer of strategy use outside of school than students who did not know the strategy prior to instruction ($x=13.057$, $df=3$, $p=.027$). However, students who continued to use the strategy as they had before instruciton did not differ significantly from those who altered their strategic thinking after instruction in the number of free-writing applications of strategic thinking to out-of-school settings.

One half of the subjects were given the option of teaching the strategy they had learned to younger students or of designing a new lesson and thinking guide for a strategy they wanted to learn. Of this group of 126 students, one-half of the group selected teaching and one-half elected to design a new strategy lesson. There were

no significant differences between these groups on the basis of ability levels or cultural background. Those who taught their strategy to another class spent two additional hours of strategy instruction relative to the strategy they had been taught: one hour planning their instruction and one hour of teaching.To counterbalance the effects of time-on-task, subjects who were engaged in designing their own strategy and thinking guide were asked to complete questions after they had also engaged in two additional hours of strategy instruction related to the strategy they had been taught. While the three classrooms who opted to design their own lesson are still engaged in this instruction, groups who taught another class completed their instruction and reported the benefits/deficits they experienced.

Subjects who taught younger schoolmates transferred the strategy significantly more than those who had completed an equal amount of time designing a new thinking guide and new lesson concerning a strategy they wanted to learn next ($X = 3.651$; $df = 3$, $p = .05$) and no significant differences existed between groups in ethnicity and ability levels. Reasons students cited as to why teaching assisted their transfer included: " I t helped me learn that brainstorming can be almost anything you want it to be that you can think of."; "It helped me become or get the feeling of brainstorming"; "I helped them learn. That made me glad."; "I learned the problem solving process by doing it."; and, "It helped me learn when I realized everyone had different opinions."

DISCUSSION

Strategy instruction, as described in this study, effective enabled students from all ethnic and ability levels to learn the strategies. Their learning was measured by their ability to describe the strategy in open-ended paragraphs they created one week after instruction ceased. Moreover, strategy instruction enabled students to generalize and use strategies in out-of-school contexts without prompting. Based on these data, strategy instruction may assist schools to close the gap between the literacy levels of differing ethnic groups and increase the reading abilities of students who read less well than desired.

While significant differences existed between cultural groups in the types of instruction they value, most students in all ethnic groups choose teacher direction above thinking guides or choice of activities as the most useful aspect of strategy instruction. Above and below average readers agreed. Only those who are capable of reading above their grade level placements selected the thinking guide as the most valuable aspect of strategic instruction. Therefore, when direct instruction includes modeling, examples, dispelling of misconceptions, discussion periods, and elaborated explanations students from all ethnic groups as well as students who read at or below grade level value it. They also demonstrated to benefit from its use in that they transferred their learning to situations that exist outside of school. Because higher ability peers placed more value in using the thinking guide independently than their lower achieving peers, future strategy lessons may be more profitable for this group if such students are allowed to leave direct instructional settings earlier than peers. Higher

ability peers could reflect upon their thinking guide as they read silently, or discussed in small groups, books and topics of choice in which the thinking guide was to be applied. These activities could occur simultaneously with the teacher direction being offered to the rest of their classmates.

It appears that students who understand strategies that are depicted on paper so that components in the process are described graphically and graphemically are able to transfer the strategy to situations outside of school more consistently than students who learn strategies predominately through teacher direction or literature-based activities. Because of this finding, we are presently examining if thinking guides created by students or prepared by teachers differ in their power to stimulate generalizations beyond the classroom. Also, based on this study, teachers need not be concerned if some students in the class already use a strategy based on prior instruction or methods they have created independently. The types of strategy instruction in this study will not interfere with generalization for these students, and may enhance transferability.

Last, because students who taught others produced more transfer of instruction than peers who worked as a class to design a new strategy lesson this method of building students' strategic knowledge should be explored in greater detail. It could be that student-led groups enable students to interact with strategies in ways that increase their affect. Such data would be consistent with the benefits students have expressed concerning literature-based instruction that does not contain direct, strategy

instruction, e.g. they value the fact that they can learn from each other in reading response group activities, writing workshops and other types of process approaches to literacy instruction. The difference between the teaching experience the students in this study experienced and those that normally occur in process-oriented literacy programs is that students taught a specific strategy, used a thinking guide as a teaching aid, and had full responsibility for creating learning for peers. Perhaps these three components of strategy instruction, if incorporated into process-approaches of literacy instruction, would advance the generalization of higher level thinking for greater numbers of students from differing ability levels and ethnic backgrounds.

Based on these data, it appears to be advantageous for literacy programs to include more strategic instruction for all students, regardless of their cultural background or ability level. For higher achieving students mere exposure to graphically and graphemically depicted strategies may be sufficient for generalization. For less able peers, as well as students who differ in their cultural backgrounds appear to also use teacher directed instruction, modeling, examples, discussion, dispelling of misconceptions to learn the strategies. Heterogeneously peer groups in which students are allowed to teach younger peers what they have learned appears to also increase generalizability as does the ability to value the graphic and graphemic description of the strategy as it appears on a thinking guide. These three diversity of student-centered, relevant scaffolds will ensure that a diversity of learned will be successful in classrooms in which

higher level thinking and comprehension instruction occurs.

REFERENCES

Allen, K.; O'Tuel, F.; Bullard, K. (1993, April). Learning and retention of problem solving strategies by fifth and sixth graders. Paper presented at the annual meeting of the American Education Research Association, Atlanta, GA.

Applebee, A., Langer, J. N., & Mullis, A. (1988). Report of the National Assessment of Educational Progress. Washington, D. C: U.S. Department of Education.

Block, C. (1993a, April). What Are the Benefits and Deficits of Strategies Instruction for Students Who Read Successfully Prior to Instruction: Research and Practitioners' Data. Paper presented at the annual meeting of the American Education Research Association, Atlanta, GA.

Block, C. (1993b). Strategy Instruction in a Literature-based Reading Program. The Elementary School Journal, 94 (2), 139-151.

Brookhart, S. M. & Rusnak, T. G. (1993). A pedagogy of enrichment: Not poverty: Successful lessons of exemplary urban teachers. Journal of Teacher Education, 44(1), 17-26.

Collins, C. (1991). Increasing students' thinking during reading instruction. Journal of Reading, 40 (3), 233-240.

Delpit, L. (1986). Skills and other dilemmas of a grocressive black educator. harvard Educational Review, 56, 379-385.

Delpit, L. (1988). The silenced dialogue: Power and pedagogy in educating other people's children. Harvard Educational Review, 58, 280-98.

Dole, J. A., Duffy, G. G., Roehler, L. R., & Reason, P. D. (1991). Moving from the old to the new: Research on reading comprehension instruction. Review of Educational research, 61, 239-264.

Durkin, D. (1978/1979). Reading Comprehension Instruction. Reading Research Quarterly

Emery, (1991).

Haberman, M. (1991). The pedagogy of poverty versus good teacher. Phi Delta Kappan, 73, 290-4.

Hansen, J. (1991, May). Portfolios. Paper presented at the annula meeting of the International Reading Association, Las Vegas, NV.

Kobrin, D.; Abbott, E.; Ellinwood, J. & Horton, D. (1993, April). Learning history by doing history, Educational Leadership, 50 (7), 39-41.

Macias, J. (1989, April). Transnational educational antrhropology: The case of immigrant Mexican students. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Pearson, D. (1989). Reading the whole-language movement. The Elementary School Journal, 90, 231-41.

Pressley, M., Goodchild, F., Fleet, J., Zajchowski, R., & Evans, E. D. (1989). The challenges of classroom strategy instruction. The Elementary School Journal, 89, 301-342.

Reyes, M. (1993). A process approach to literacy instruction for Spanish-Speaking Students: In search of a best fit. In Hiebert, E. (Ed.). Literacy for a diverse society: Perspectives, practices and policies. NY: Teachers College Press.

Rosenshine, B., & Chapman, S. (1991, April). Scaffolding in successful intervention studies in question generation. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Siddle, E. V. (1986). A critical assessment of the natural process approach to teaching writing. Unpulbished qualifying paper, Harvard University.